

CLAIMS

1. A field converter comprising,  
material pieces,  
5 said material pieces each having an external shape of an equilateral hexagonal prism, and said material pieces each having a hole of an annular section penetrating through a base and a top thereof, an internal surface of said hole having a spiral groove, a material of said material piece being selected from the group  
10 consisting of austenitic stainless steel, martensitic stainless steel, platinum, gold, silver, titanium and diamond, said material pieces having been heat-treated, said material pieces being oriented in an arrangement such that the central axes thereof (said central axes each is an axis which is  
15 parallel to six sides of said equilateral hexagonal prism and perpendicular to said base and said top thereof) are parallel to each other, and  
said arrangement being retained.
- 20 2. A field converter as defined in claim 1, wherein,  
said material pieces have identical shape and identical size to each other,  
said hole having a circular prism shape, a central axis of said hole is identical with said central axis of said material piece, and  
25 said arrangement is one such that said bases of said material pieces makes a plane and said sides of said material pieces are adjacent to each other.
- 30 3. A field converter as defined in one of claims 1 and 2, wherein,  
said arrangement is one such that,  
said material pieces form a kind of concentric circle, and

a drawing line linked projected points, which are caused that said central axes of the outermost circumferentially located plural material pieces of said kind of concentric circle are projected on a plane perpendicular to said central axis of said material piece,  
5 to form an equilateral hexagon.

4. A field converter comprising a plurality of said field converters as defined in one of claims 1 to 3, wherein said field converters are piled one on top of the other.

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5. A field converter comprising a plurality of said field converters as defined in claim 3, wherein,  
said field converters are piled one on top of the other, and  
the central axes of the central material pieces of said kind of  
15 concentric circle arrangements are generally aligned.

6. A field converter as defined in one of claims 1 to 5, wherein,  
material of said material piece is SUS304 stainless steel.

20 7. A field converter as defined in one of claims 1 to 6, wherein,  
said heat-treating is such that,  
the heating temperature is equal to or more than 800 °C, and  
the heating duration is equal to or more than 5 minutes.

25 8. A field converter as defined in one of claims 1 to 7, wherein,  
a length of the side of said equilateral hexagon being designated  
as a cross section of said equilateral hexagonal prism of said material  
piece, is equal to or less than 10 mm, and  
a height of said equilateral hexagonal prism is shorter than said  
30 length of said side.

9. A field converter as defined in one of claims 1 to 8, wherein, said spiral groove of said internal perimeter surface of said hole of said material piece, has a triangular screw thread shape.

5 10. A field converter as defined in one of claims 1 to 9, wherein the field converter is housed in a sealed container of SUS304 stainless steel.

11. A fluid processing device comprising,  
10 a hollow container having an intake and an outlet, and said field converter as defined in one of claims 1 to 9, is positioned in said container.

12. A fluid processing device as defined in claim 11, wherein,  
15 said central axes of the material pieces being constituent of the field converter, are generally aligned with a principal stream direction of processed fluid which pass through said container.

13. A fluid processing device as defined in claim 12, wherein,  
20 said fluid is liquid, and said fluid processing device is connected to a service pipe to supply said liquid, and said liquid is pressurized comparing with surrounding atmospheric pressure in said pipe.

25 14. Fluid being passed through said fluid processing device as defined in one of claims 11 to 13.

15. Fluid as defined in claim 14, wherein said fluid is water.